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PTO/SB/21 (09-04)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)	Application Number	10/715,722	
	Filing Date	November 17, 2003	
	First Named Inventor	Ralph A. DALLA BETTA	
	Art Unit	3748	
	Examiner Name	B. Tran	
Total Number of Pages in This Submission	10 pages + 14 references	Attorney Docket Number	220772010800

**ENCLOSURES (Check all that apply)**

<input checked="" type="checkbox"/> Fee Transmittal Form (original + copy for fee processing (2 pages)) <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement (Supplemental) (3 pages) <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): <ul style="list-style-type: none"><li>• Form PTO/SB/08a/b (original + copy (4 pages))</li><li>• 14 References</li><li>• Return Receipt Postcard</li></ul>
<b>Remarks</b>		

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm Name	MORRISON & FOERSTER LLP (Customer No.: 25226)		
Signature	<i>Will A. Jacobson</i>		
Printed name	Will A. Jacobson		
Date	February 22, 2006	Reg. No.	40,030

Client Ref. No.: P-1104

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail, Airbill No. EV534439758US, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: February 22, 2006

Signature: *Georgina Matos*

(Georgina Matos)



PTO/SB/17 (12-04v2)

Approved for use through 7/31/2006. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no person are required to respond to a collection of information unless it displays a valid OMB control number.

<b>Effective on 12/08/2004.</b> <b>Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).</b>		<b>Complete if Known</b>	
<b>FEE TRANSMITTAL</b> <b>For FY 2005</b>		Application Number	10/715,722
		Filing Date	November 17, 2003
		First Named Inventor	Ralph A. DALLA BETTA
		Examiner Name	B. Tran
		Art Unit	3748
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27		Attorney Docket No.	220772010800
<b>TOTAL AMOUNT OF PAYMENT</b>		<b>(\$)</b>	<b>180.00</b>

<b>METHOD OF PAYMENT</b> (check all that apply)	
<input type="checkbox"/> Check	<input type="checkbox"/> Credit Card
<input type="checkbox"/> Money Order	<input type="checkbox"/> None
<input type="checkbox"/> Other (please identify): _____	
<input checked="" type="checkbox"/> Deposit Account	Deposit Account Number: <u>03-1952</u> Deposit Account Name: <u>Morrison &amp; Foerster LLP</u>
For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)	
<input checked="" type="checkbox"/> Charge fee(s) indicated below	<input type="checkbox"/> Charge fee(s) indicated below, except for the filing fee
<input checked="" type="checkbox"/> Charge any additional fee(s) or underpayment of fee(s) under 37 CFR 1.16 and 1.17	<input checked="" type="checkbox"/> Credit any overpayments

<b>FEE CALCULATION</b>							
<b>1. BASIC FILING, SEARCH, AND EXAMINATION FEES</b>							
	<b>FILING FEES</b>		<b>SEARCH FEES</b>		<b>EXAMINATION FEES</b>		
		<b>Small Entity</b>		<b>Small Entity</b>		<b>Small Entity</b>	
<b>Application Type</b>	<b>Fee (\$)</b>	<b>Fee (\$)</b>	<b>Fee (\$)</b>	<b>Fee (\$)</b>	<b>Fee (\$)</b>	<b>Fee (\$)</b>	<b>Fees Paid (\$)</b>
Utility	300	150	500	250	200	100	0.00
Design	200	100	100	50	130	65	0.00
Plant	200	100	300	150	160	80	0.00
Reissue	300	150	500	250	600	300	0.00
Provisional	200	100	0	0	0	0	0.00
<b>2. EXCESS CLAIM FEES</b>							
						<b>Small Entity</b>	
<b>Fee Description</b>						<b>Fee (\$)</b>	<b>Fee (\$)</b>
Each claim over 20 (including Reissues)						50	25
Each independent claim over 3 (including Reissues)						200	100
Multiple dependent claims						360	180
<b>Total Claims</b>		<b>Extra Claims</b>	<b>Fee (\$)</b>	<b>Fee Paid (\$)</b>	<b>Multiple Dependent Claims</b>		
30	- 65 =	0	x 25.00 =	0.00	<b>Fee (\$)</b>	<b>Fee Paid (\$)</b>	
					180.00	0.00	
<b>Indep. Claims</b>		<b>Extra Claims</b>	<b>Fee (\$)</b>	<b>Fee Paid (\$)</b>			
2	- 5 =	0	x 100.00 =	0.00			
<b>3. APPLICATION SIZE FEE</b>							
If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).							
<b>Total Sheets</b>	<b>Extra Sheets</b>	<b>Number of each additional 50 or fraction thereof</b>		<b>Fee (\$)</b>	<b>Fee Paid (\$)</b>		
- 100 =		/50 (round up to a whole number) x		125.00	=		0.00
<b>4. OTHER FEE(S)</b>							
						<b>Fees Paid (\$)</b>	
Non-English Specification, \$130 fee (no small entity discount)						0.00	
Other (e.g., late filing surcharge): 1806 Submission of an Information Disclosure Statement						180.00	

<b>SUBMITTED BY</b>			
Signature	<i>Jill A. Jacobson</i>	Registration No. (Attorney/Agent)	40,030
Name (Print/Type)	Jill A. Jacobson	Telephone	(650) 813-5876
		Date	February 22, 2006

Client Ref. No.: P-1104

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail, Airbill No. EV534439758US, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: February 22, 2006

Signature: Georgina Matos  
(Georgina Matos)

Patent  
Docket No. 220772010800  
Client Ref. No.: P-1104

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Ralph A. DALLA BETTA et al.

Serial No.: 10/715,722

Filing Date: November 17, 2003

For: DEVICES AND METHODS FOR  
REDUCTION OF NOX EMISSIONS  
FROM LEAN BURN ENGINES

Examiner: B. Tran

Group Art Unit: 3748

**SUPPLEMENTAL INFORMATION DISCLOSURE  
STATEMENT UNDER 37 C.F.R. § 1.97 & 1.98**

MS Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. §1.97 and § 1.98, Applicants submit for consideration in the above-identified application the documents listed on the attached Form PTO/SB/08a/b. Copies of foreign documents and non-patent literature are submitted herewith. The Examiner is requested to make these documents of record.

This Supplemental Information Disclosure Statement is submitted:

- ☐ With the application; accordingly, no fee or separate requirements are required.
- ☐ Before the mailing of a first Office Action after the filing of a Request for Continued Examination under § 1.114. However, if applicable, a certification under 37 C.F.R. § 1.97 (e)(1) has been provided.

02/27/2006 EFLDRES 00000107 031952 10715722

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- ☐ Within three months of the application filing date or before mailing of a first Office Action on the merits; accordingly, no fee or separate requirements are required. However, if applicable, a certification under 37 C.F.R. § 1.97 (e)(1) has been provided.
- ☒ After receipt of a first Office Action on the merits but before mailing of a final Office Action or Notice of Allowance.
- ☐ A fee is required. A check in the amount of \_\_ is enclosed.
- ☒ A fee is required. Accordingly, a Fee Transmittal form (PTO/SB/17) is attached to this submission in duplicate.
- ☐ A Certification under 37 C.F.R. § 1.97(e) is provided above; accordingly, no fee is believed to be due.
- ☐ After mailing of a final Office Action or Notice of Allowance, but before payment of the issue fee.
- ☐ A Certification under 37 C.F.R. § 1.97(e) is provided above and a check in the amount of \_\_ is enclosed.
- ☐ A Certification under 37 C.F.R. § 1.97(e) is provided above and a Fee Transmittal form (PTO/SB/17 is attached to this submission in duplicate.)

Applicants would appreciate the Examiner initialing and returning the Form PTO/SB/08a/b, indicating that the information has been considered and made of record herein.

The information contained in this Supplemental Information Disclosure Statement under 37 C.F.R. § 1.97 and § 1.98 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

In the unlikely event that the transmittal form is separated from this document and the Patent and Trademark Office determines that an extension and/or other relief (such as payment of a fee under 37 C.F.R. § 1.17 (p)) is required, Applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petition and/or other

Application Serial No. 10/715,722

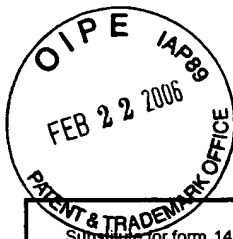
Patent  
Docket No. 220772010800

fees due in connection with the filing of this document to **Deposit Account No. 03-1952**  
referencing 220772010800.

Dated: February 22, 2006

Respectfully submitted,

By Jill A. Jacobson  
Jill A. Jacobson  
Registration No.: 40,030  
MORRISON & FOERSTER LLP  
755 Page Mill Road  
Palo Alto, California 94304-1018  
(650) 813-5876



ALTERNATIVE TO PTO/SB/08a/b (07-05)

Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)				<b>Complete if Known</b>	
				Application Number	10/715,722
				Filing Date	November 17, 2003
				First Named Inventor	Ralph A. DALLA BETTA
				Art Unit	3748
				Examiner Name	B. Tran
Sheet	1	of	2	Attorney Docket Number	220772010800

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	
		Number-Kind Code <sup>2</sup> (if known)				
	1.	US-2002/0062641-A1	05-30-2002	Shiino et al.		
	2.	US-2002/0121461-A1	09-05-2002	Ueda et al.		
	3.	US-2003/0070425-A1	04-17-2003	Kokusyo et al.		
	4.	US-2003/0101713-A1	06-05-2003	Dalla Betta et al.		
	5.	US-2004/0006975-A1	01-15-2004	Stroia et al.		
	6.	US-2004/0050037-A1	03-18-2004	Betta et al.		
	7.	US-5,183,401-A	02-02-1993	Dalla Betta et al.		
	8.	US-5,412,946-A	05-09-1995	Oshima et al.		
	9.	US-6,167,696-B1	01-02-2001	Maaseidvaag et al.		
	10.	US-6,202,407-B1	03-20-2001	Brusasco et al.		
	11.	US-6,449,947-B1	09-17-2002	Liu et al.		
	12.	US-6,508,057-B1	01-21-2003	Bouchez et al.		
	13.	US-6,527,980-B1	03-04-2003	Roden et al.		
	14.	US-6,557,342-B2	05-06-2003	Suga et al.		
	15.	US-6,560,958-B1	05-13-2003	Bromberg et al.		
	16.	US-6,576,203-B2	06-10-2003	Abe et al.		
	17.	US-6,641,795-B2	11-04-2003	Abe		
	18.	US-6,698,188-B2	03-02-2004	Irisawa et al.		
	19.	US-6,708,484-B2	03-23-2004	Onodera et al.		
	20.	US-6,713,040-B2	03-30-2004	Ahmed et al.		

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
	21.	DE-202 18 811-U1	04-10-2003	Zeuna Staerker KG	Translation of Abstract Only	
	22.	EP-0 893 154-A2	01-27-1999	Volkswagenwerk AG	Translation of Abstract Only	
	23.	EP-1 008 379	06-14-2000	Inst. Francais Du Petrol	Translation of Abstract Only	
	24.	JP-03-196839	08-28-1991	Mitsubishi Heavy Ind. Ltd.	Translation of Abstract Only	
	25.	JP-09-317440	12-09-1997	Nippon Soken	Translation of Abstract Only	
	26.	WO-03/048536-A1	06-12-2003	Catalytica Energy Sytems, Inc.		
	27.	WO-2004/046514-A1	06-03-2004	Catalytica Energy Systems, Inc.		
	28.	WO-2004/101965-A1	11-25-2004	Catalytica Energy Systems, Inc.		

\*EXAMINER: Initial if information considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Examiner Signature		Date Considered	
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pa- 1036078

Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)				<b>Complete if Known</b>	
				Application Number	10/715,722
				Filing Date	November 17, 2003
				First Named Inventor	Ralph A. DALLA BETTA
				Art Unit	3748
				Examiner Name	B. Tran
Sheet	2	of	2	Attorney Docket Number	220772010800

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author ( in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	29.	International Search Report for PCT Patent Application No. PCT/US02/38813 filed June 12, 2003, mailed March 17, 2003, three pages.	
	30.	International Search Report for PCT Application PCT/US2004/014007 filed May 5, 2004, mailed September 8, 2004, three pages.	
	31.	Majewski, W. A. (2001). "NO <sub>x</sub> Adsorbers," <i>DieselNet Technology Guide: Diesel Catalysts</i> retrieved from <http://www.dieselnet.com>, 13 pages total.	
	32.	Matsumoto, S. (2000). "Catalytic Reduction of Nitrogen Oxides," <i>CATTECH</i> 4(2):102-109.	
	33.	Molinier, M. (2001). "NO <sub>x</sub> Adsorber Desulfurization Under Conditions Compatible With Diesel Applications," <i>ASEC Manufacturing/Delphi Automotive Systems</i> 2001-01-0508, seven pages.	
	34.	Yamazaki, K et al. (2001). "Effect of the Addition of Transition Metals to Pt/Ba/Al <sub>2</sub> O <sub>3</sub> Catalyst on the NO <sub>x</sub> Storage-Reduction Catalysis Under Oxidizing Conditions in the Presence of SO <sub>2</sub> ," <i>Applied Catalysis B: Environmental</i> 30:459-468.	

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

Examiner Signature		Date Considered	
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pa- 1036078